

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of lyophilizing material, comprising the steps of:

placing material to be processed in a chamber ~~under~~ and varying temperature and pressure conditions to facilitate ~~facilitating~~ lyophilization;

creating a microwave field in the chamber;

taking temperature measurements in the chamber to detect corona discharges;

controlling microwave power and duration to vary microwave field strength in response to ~~temperature measurements~~ detected corona discharges;

trapping water vapor extracted from the material being dried.
2. (Original) A method according to claim 1, wherein the step of trapping water vapor comprises passing the water vapor through a condenser.
3. (Original) A method according to claim 1, wherein the step of trapping water vapor comprises passing the water vapor to or through a desiccant.
4. (Currently Amended) A method according to claim 1, comprising the further step of stirring the microwaves in the field with a stirrer having arc inhibiting surfaces to facilitate improved microwave dispersion in the chamber.
5. (Original) A method according to claim 1, comprising the further step of shielding selected surfaces in the chamber from direct exposure to microwaves.
6. (Withdrawn) A method of lyophilizing, comprising the steps of:

placing material in a lyophilizing chamber, the chamber having a controllable temperature and pressure;

creating chamber conditions to facilitate sublimation;

wherein in a first operating mode, the chamber utilizes temperature and pressure to facilitate sublimation, in a second mode, the chamber utilizes temperature, pressure and microwaves to facilitate sublimation, and in a third mode utilizes only microwaves to facilitate sublimation.

7. (Withdrawn) A method according to claim 6, wherein processing includes operation in a combination of two or more of the first, second and third modes.

8. (New) A method according to claim 5, wherein the chamber includes a sensor taking the temperature measurements with arc inhibiting surfaces and a stirrer with arc inhibiting surfaces.

9. (New) A method of lyophilizing material, comprising the steps of:

placing material to be processed in a chamber under temperature and pressure conditions facilitating lyophilization;

creating a microwave field in the chamber;

taking temperature measurements in the chamber;

controlling microwave power and duration to vary microwave field strength in response to temperature measurements;

passing water vapor from the material being dried to or through a desiccant.

10. (New) A method of lyophilizing material, comprising the steps of:

placing material to be processed in a chamber and varying temperature and pressure conditions to facilitate lyophilization;

creating a microwave field in the chamber and stirring the microwave field;

sensing corona discharges in the chamber;

controlling microwave power and duration to vary microwave field strength in response to sensed corona discharges;

trapping water vapor extracted from the material being dried.

11. (New) A method according to claim 10, further comprising shielding selected surfaces in the chamber from direct exposure to microwaves.

12. (New) A method according to claim 10, further comprising providing selected surfaces in the chamber with arc inhibiting surfaces.

13. (New) A method according to claim 10, further comprising providing a stirrer with arc inhibiting surfaces.

14. (New) A method according to claim 13, further comprising shielding selected surfaces in the chamber from direct exposure to microwaves.